A 22-Year Retrospective Epidemiological Review Of Thyroid Cancer Trends In Northern Ireland: 1993-2014

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Background and objectives

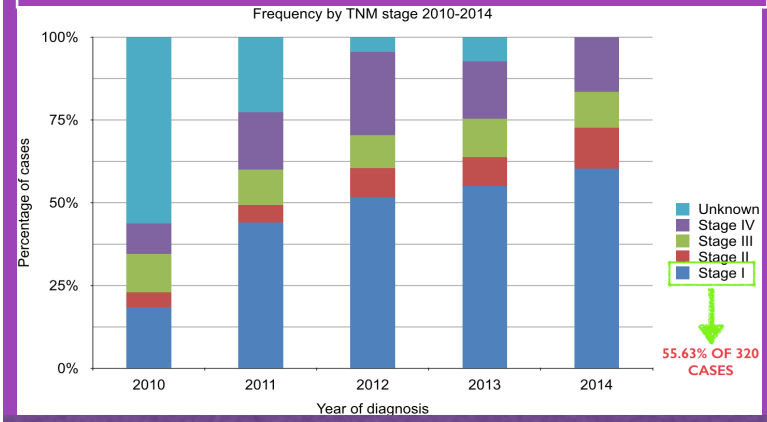
Thyroid cancer incidence has increased globally since the 1970s[1]. Numerous studies have confirmed this striking trend including studies from: the United states,[2-5] Puerto Rico,[6] Canada,[7] China,[8,9] Saudi Arabia,[10] Australia,[11] France,[12] Nordic countries,[13] Portugal,[14] Croatia,[15] Slovak Republic,[16] Great Britain as a whole[17] and Scotland,[18] Wales[19] and England[20] alone. Some authors have identified the trend as early as the 1960s.[16,18] The importance of studying trends worldwide is evident from the results in the literature. We aimed to produce a detailed report of trends in Northern Ireland (NI) to expand on previous work including a report of all cancers in NI[21] and the cancer statistics presented on the NI Cancer Registry (NICR) website annually (http://qub.ac.uk/research-centres/nicr/CancerInformation/).

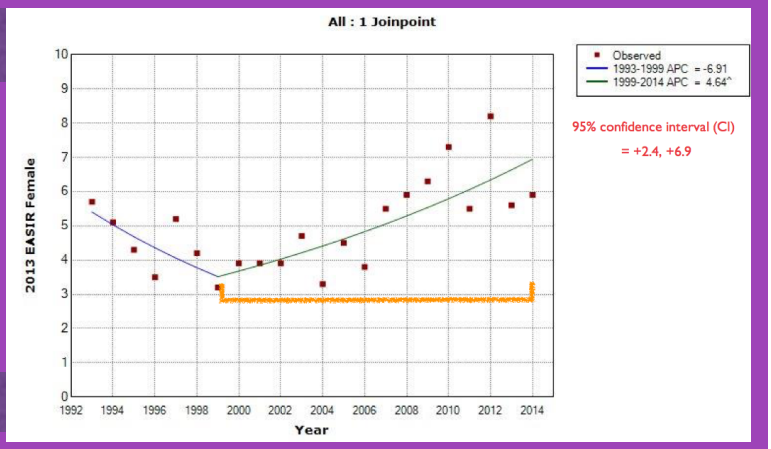
Methods

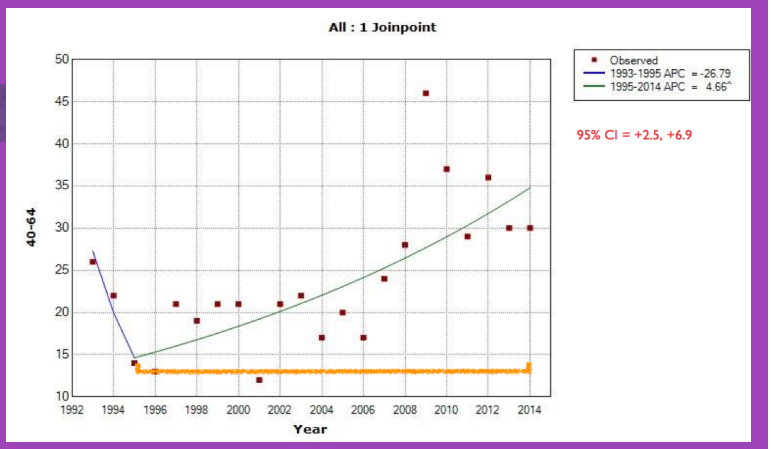
A retrospective, descriptive epidemiological review was performed using anonymised data from the NICR. C73 is the thyroid cancer ICD-10 code. We used STATA to calculate incidence statistics and Joinpoint Regression Analysis[22,23] to analyse trend significance. Registry ethical approval was previously granted.

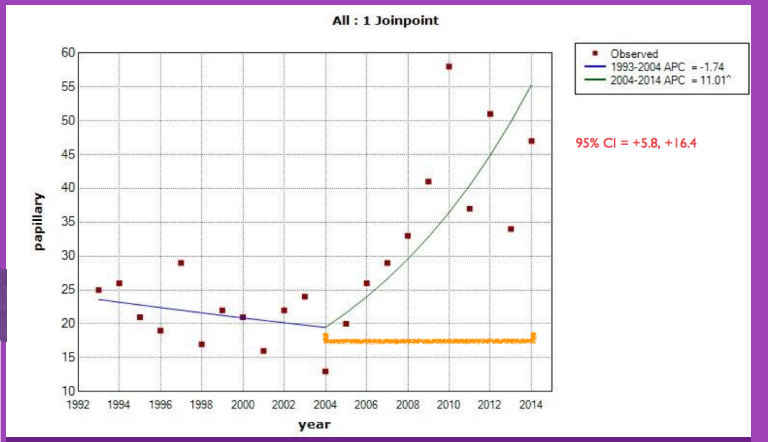
Results

There were 1,212 cases over the 22 years (27.06% male, 72.94% female, F:M=2.7:1). Incidence increased significantly in females (1999-2014, annual percentage change (APC) +4.64%, p<0.05, 95% confidence interval (CI) +2.4, +6.9). Frequency increased predominantly in ages 40-64 (1995-2014, APC +4.66%, p<0.05, CI +2.5, +6.9). 55.63% of the 320 cases with staging data (2010-2014) were stage I. Papillary carcinoma frequency increased dramatically (2004-2014, APC +11.01%, p<0.05, CI +5.8, +16.4).









Conclusions

This study shows that thyroid cancer incidence has increased in NI in the last 2 decades in females and middle-aged patients. This is shown to be mainly due to papillary carcinomas, potentially mostly stage I. These findings corroborate the findings in the literature.[1,2,4-20] This data may support the hypothesis put forward in the literature[4,7] that over-diagnosis, due to the advent and increased use of sensitive technologies such as ultrasound and fine needle aspiration, has resulted in apparent increasing trends in thyroid cancer incidence.

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